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ABSTRACT

In 1986, Seattle (Washington) Pacific University (SPU) chose to research the relationship of students' entering grade point average (EGPA) and scores on the Miller Analogies Test (MAT) and Graduate Record Examinations (GRE) to students' GPA achieved while attending SPU's graduate school (GGPA). Subjects were 350 students admitted from 1973 through 1985 to SPU, who were studying for their Masters degrees (61 took the GRE, and 289 took the MAT). Data were subject to several tests, including correlation and multiple regression analysis. Results indicated that both the GRE and EGPA are slightly better predictors of student success than the MAT. (TJH)

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A B S T R A C T

A STUDY OF THE MAT & GRE AS PREDICTORS OF SUCCESS IN M.ED. PROGRAMS

A study of the relationship between MAT and GRE scores to graduating GPA as predictors of success indicates some significance with these measures as well as with the entering GPA. The GRE and entering GPA proved slightly better predictors of success than the MAT, as judged by the graduating GPA.

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A STUDY OF THE MAT & GRE AS PREDICTORS OF SUCCESS IN M. ED. PROGRAMS

Lilburn E. Wesche, Kenneth Courtney, and Chester Hausken

How effectively can one predict student success or failure in graduate school? Graduate schools face the difficult and unenviable task of admitting or rejecting applicants based frequently on very limited knowledge of the student's past performance and must judge potential graduate performance solely on the basis of data provided through past grades, standardized tests and letters of recommendation.

At Seattle Pacific University, as at many other universities, an entering grade point average and either the Miller Analogies Test (MAT, The Psychological Corporation) or the Graduate Record Exam (GRE, Educational Testing Service) represent the only objective screening criteria.

Graduate schools appear to place considerable confidence in these three sources (Herbert, 1979) and past studies (Furst and Roelfs, 1979)(Humphreys, 1965) indicate that these are valid predictors of graduate level work in education.

In 1986, Seattle Pacific University chose to research the relationship of these predictors to the GPA achieved during the graduate program (GGPA) of students admitted from 1973 through 1985. The total sample contained data for 350 students, 61 with GRE scores and 289 with MAT scores. In addition to these

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two predictors, the entering GPA (EGPA) was also applied as a predictor variable. The EGPA was calculated on the last 45 credits earned prior to admission to the Graduate School.

The data were subject to several tests, including correlation and multiple regression. Correlations were generated to identify relationships between EGPA and GGPA, the MAT score and GGPA, and the GRE score and GGPA. Multiple regression was used to identify the variance accounted for by combining the MAT score with the EGPA as well as the GRE with EGPA to predict GGPA. Statistical analysis was done with the Statistical Package for the Social Sciences (1984)

While there was some significance between the GGPA and all three measures, the GRE score had the highest correlation of r = .4033 (p = .007). The EGPA showed a correlation of r = .2526 (p = .000). Lowest relationship was with the MAT with r = .1502 (p = .011)

Multiple regression combining the MAT and EGPA was .2934 for an R square of .0861. The multiple R for the GRE and EGPA was .4033 with an R square of .1626.

Results indicated both the GRE and EGPA are better predictors of student success than the MAT. It is significant,

however, that none of the correlations between predictors and criterion are high.

Students who perform below the standards set for the two tests (MAT >35, GRE >950) may be admitted on a probationary status. Completion of nine credits toward the degree with a 3.0 (on a 4.0 scale) or better grade in the nine credits removes the probation. Average scores on the standardized tests were considerably lower for the probationary group as would be expected. Probationary entrants averaged 32 on the MAT compared to 57 by those accepted without probation. On the GRE the probationary entrants registered an average score of 782 compared to 1087 by other applicants. However, the EGPA differential between probationary entrants and regular entrants was only .086. The probationary group EGPA was 3.396 compared to 3.482 for regular admissions. The GGPA differential was .068. GGPA was 3.639 for those admitted on probation compared to 3.707 for those fully admitted at entry.

These results give rise to several hypotheses regarding potential success in graduate education as predicted by either MAT or GRE. The nature of professional graduate study in education which orients toward both theory and application may not lend itself to a test concentrating solely on abstract

reasoning ability, such as the MAT. The emphasis on application, thus modifying theory from the abstract to the practical, could be a compensating factor for many graduate students. The GRE, with its orientation toward general knowledge, may be testing a student's ability to gather and retain information and perform at higher levels of thinking. Again, however, the application orientation of advanced study in education may negate the relationship of that quality to the total degree expectation.

One could further suggest that such internal and personal forces as dedication, determination, and latent interest are also determinants of success in a professional degree track. The student's awareness of the direct relationship between a concept studied, and their own teaching tasks could have a positive and reinforcing motivational impact for learning.

The Seattle Pacific University study indicates that use of these three criteria (MAT, GRE, EGPA) as sole screening elements without options for circumventing them, would be a disservice to many potentially competent graduates.

TABLE 1

CGPA of students in Qualifying Block (QB) vs regular admissions (NQB)

	n	x	SD	
QB MAT	22	32.09	14.90	pooled t= -8.04
NQB MAT	269	56.87	13.82	p = .000
QB GRE	12	782	96.92	nonpooled t= -8.38
NQB GRE	49	1087	163.30	p = .000
QB EGPA	34	3.396	.344	pooled t = -1.55
NQB EGPA	318	3.482	.305	p = .122
QB GGPA	34	3.639	.352	nonpooled t= -1.09
NQB GGPA	316	3.707	.259	p = .282

TABLE 2

CORRELATION BETWEEN GGPA AND GRE/EGPA/MAT

GGPA and GRE	r= .34	p= .007
GGPA and EGPA	r= .25	p= .000
GGPA and MAT	r= .15	p= .011

TABLE 3

PREDICTABILITY OF GGPA WITH MAT/EGPA AND GRE/EGPA

MAT/EGPA

R= .29
F= 13.49
p= .000
df residual = 286
n = 291

GRE/EGPA

R= .40
F= 5.63
p= .006
df residual = 58
n= 61

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